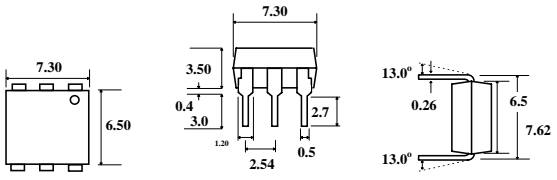
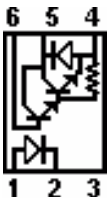


# IS660 HIGH VOLTAGE DARLINGTON OPTOCOUPERS

**ISOCOM**<sup>®</sup> LTD

PACKAGES	CIRCUIT
 <p>The package drawings show a 6-pin dual-in-line package. The top view shows a width of 7.30 and a height of 6.50. The side view shows a height of 3.50 and a base width of 7.30. The detail view shows a lead height of 2.7, a lead width of 0.5, and a lead angle of 13.0°. The base width is 2.54 and the lead spacing is 1.20.</p>	 <p>The circuit diagram shows a Gallium Arsenide infrared emitting diode connected to pin 6. The NPN silicon photo-Darlington transistor has its base connected to pin 5 and its emitter connected to pin 3. A diffusion resistor is connected between the base and emitter of the transistor. Pin 4 is the collector, pin 1 is the common ground, and pin 2 is the output.</p>

## DESCRIPTION

The IS660 is an optically coupled isolator. It consists of a Gallium Arsenide infrared emitting diode and a NPN silicon photo-Darlington transistor with diffusion resistor between the base and emitter at the output to minimise dark current, mounted in a standard 6 pin dual-in-line package

Isocom Ltd supplies a multitude of plastic optocouplers for all applications varying from standard transistor optos through to Darlington and Schmitt Trigger devices. It's massive family of optos vary in speed allowing maximum opportunity to engineers worldwide.

All devices are performance guaranteed between -20°C and +80°C and have completed rigorous testing. The Company's customers can be assured of our commitment to stringent quality, reliability and inspection standards, as demonstrated by our existing approvals. Other customer specific options can also be offered.

## FEATURES

- High CTR - 1000%min
- 5000V Isolation
- High Collector-Emitter Breakdown Voltage -200Vmin
- Low Input Current Requirement - 1mA

Isocom Ltd reserves the right to change the details on this specification without notice. Please consult Isocom Ltd prior to use. Isocom Ltd cannot accept liability for any errors or omissions.

For sales enquiries, or further information, please contact our sales office at:

Isocom Ltd, Hutton Close, Crowther Industrial Estate, District 3, Washington, NE38 0AH

Tel: +44 0191 4166 546 Fax: +44 0191 4155 055 Email [Isocom@isocomoptocouplers.com](mailto:Isocom@isocomoptocouplers.com)

Or go to the Isocom Website @: [Http://www.isocom.uk.com](http://www.isocom.uk.com)

## ABSOLUTE MAXIMUM RATINGS

Storage Temperature	-55°C to +150°C
Operating Temperature	-55°C to +100°C
Lead Soldering Temperature	260°C 1.6mm from case for 10S
Input-to-Output Isolation Voltage	↑5000V

### Input Diode

Forward DC Current	60mA	
Reverse DC Voltage	6V	
Peak forward Current	1.0A	1μS p.w. 300 pps
Power Dissipation	70mW	Derate linearly above 25°C at 0.93mW/°C.

### Output Transistor

Collector-Emitter Voltage	200V	BV <sub>CEO</sub>
Collector-Base Voltage	200V	BV <sub>CBO</sub>
Emitter-Base Voltage	6V	
Power Dissipation	300mW	Derate linearly above 25°C at 4.0mW/°C

### Package

Total Power Dissipation	350mW	Derate linearly above 25°C at 4.67mW/°C
-------------------------	-------	---

## ELECTRICAL CHARACTERISTICS

T<sub>A</sub> = 25°C U.O.S. (each channel where appropriate).

### Input Diode Electrical Characteristics

Parameter	Symbol	Test Conditions	Device	Min	Typ	Max	Units
Forward Voltage	V <sub>F</sub>	I <sub>F</sub> = 10mA			1.2	1.5	V
Reverse Current	I <sub>R</sub>	V <sub>R</sub> = 6.0V				10	μA
Reverse Breakdown Voltage	V <sub>R</sub>	I <sub>R</sub> = 10μA		6.0			V

### Output Detector Electrical Characteristics

Collector-emitter Voltage	BV <sub>CEO</sub>	I <sub>C</sub> = 1mA, I <sub>F</sub> = 0		200	260		V
Collector-base Voltage	BV <sub>CBO</sub>	I <sub>C</sub> = 0, 1mA, I <sub>F</sub> = 0		200			V
Emitter-base Voltage	BV <sub>EBO</sub>	I <sub>E</sub> = 100μA, I <sub>F</sub> = 0		6			V
Collector-emitter Dark Current	I <sub>CEO</sub>	V <sub>CE</sub> = 100V, I <sub>F</sub> = 0				100	nA

### Coupled Electrical Characteristics

DC Current Transfer Ratio	I <sub>C</sub> /I <sub>F</sub>	I <sub>F</sub> = 1mA, V <sub>CE</sub> = 2V, I <sub>B</sub> = 0		1000	5000		%
Input-to-Output Isolation Resistance	R <sub>IO</sub>	V <sub>IO</sub> = 500V		10 <sup>11</sup>			Ω
Collector-Emitter Saturation Voltage	V <sub>CE(Sat)</sub>	I <sub>F</sub> = 10mA, I <sub>C</sub> = 100mA				1.2	V
Capacitance Input to Output	C <sub>IO</sub>	f = 1Mhz, v = 0			0.6		pF
Output Rise Time	T <sub>R</sub>	V <sub>CE</sub> = 2V, I <sub>C</sub> = 20mA, R <sub>L</sub> = 100Ω			130	250	μS
Output Fall Time	T <sub>F</sub>				30	70	μS
Cut-off-frequency	f <sub>C</sub>	V <sub>CE</sub> = 2V, I <sub>C</sub> = 20mA, R <sub>L</sub> = 100Ω		1	4		Khz
Input-to-Output Isolation Voltage				5000			V

Isocom Ltd reserves the right to change the details on this specification without notice. Please consult Isocom Ltd prior to use.

Isocom Ltd cannot accept liability for any errors or omissions.

For sales enquiries, or further information, please contact our sales office at:

Isocom Ltd, Hutton Close, Crowther Industrial Estate, District 3, Washington, NE38 0AH

Tel: +44 0191 4166 546 Fax: +44 0191 4155 055 Email [Isocom@isocomptocouplers.com](mailto:Isocom@isocomptocouplers.com)

Or go to the Isocom Website @: <http://www.isocom.uk.com>